

2834

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37 CFR 1.8(a)

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Date of Deposit: April 13, 2003 By: James E. Bradley



IN THE UNITED STATES PATENT & TRADEMARK OFFICE

#11/Supp. IDS  
S. Mohammed  
4-118-03

IN RE APPLICATION OF  
Dick L. Knox, et al.

DOCKET NO. 104-22997

SERIAL NO.: 09/838,741

EXAMINER:  
Dang D. Le

FILED: 04/19/2001

GROUP ART UNIT: 2834

TITLE: Pressurized Bearing System for  
Submersible Motor

SUPPLEMENTAL INFORMATION DISCLOSURE  
STATEMENT UNDER § 1.97(d)

RECEIVED  
APR 14 2003  
TC 2834 MAIL ROOM

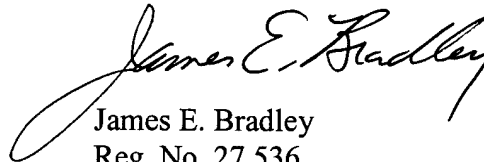
Hon. Commissioner of Patents and Trademarks  
Washington, D.C. 20231

Sir:

Applicants are enclosing a Form PTO-1449 along with copies of the references. This Supplemental Information Disclosure Statement is cited in response to an International Search Report from a corresponding patent application with the British Patent Office. Applicants are also enclosing a copy of the search report. I certify pursuant to 37 C.F.R. §1.97(d) that each item of information contained in the Supplemental Information Disclosure Statement was cited in a communication in the British Patent Office in a counterpart application more than three (3) months prior to the filing of this statement.

Please charge the fee of \$180 under 1.17(p) and any additional fees to Baker Hughes  
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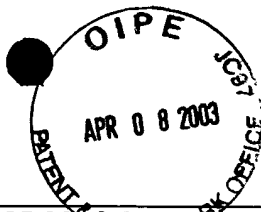
Respectfully submitted,



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Date: April 3, 2003

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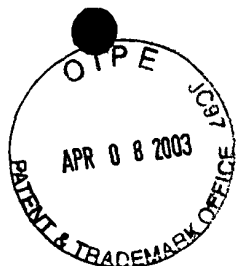


FACSIMILE OF U.S. DEPARTMENT OF COMMERCE FORM 1449A/PTO Patent and Trademark Office PTO/SB/08A (08/00)  <b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b> (Use as many sheets as necessary)				<b>Complete if Known</b>	
				Application No.	09/838,741
				Filing Date	04/19/2001
				First Named Inventor	Dick L. Knox, et al.
				Group Art Unit	2834
				Examiner Name	Dang D. Le
Sheet	1	of	1	Attorney Docket No.	104-22997

U.S. PATENT DOCUMENTS						
Examiner Initials	Cite No.	U.S. Patent Document		Name of Patentee or Applicant of Cited Document	Date of Publication of cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number	Kind Code (if known)			
	AA	4,332,524		Smith	06/01/82	
	AB	4,502,852		Hazaki	03/05/85	
	AC	5,591,016		Kubota, et al.	01/07/97	
	AD	6,140,725		Jensen, et al.	10/31/00	

FOREIGN PATENT DOCUMENTS						
Examiner Initials	Cite No.	Foreign Patent Document		Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Office Number Kind Code	(if known)			
	BA		DE2941133A1	Speck Kolbenpumpen Fabrik	04/23/81	

OTHER PRIOR ART		
Examiner Initials	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.) date, page(s), volume-issue number(s), publisher, city and/or country where published.



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Your Reference: 85.78187  
Application No: GB 0208997.7

21 November 2002

Dear Sirs

CCPY

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APR 14 2003  
TO 2800 MAIL ROOM

**Patents Act 1977:**

**Combined Search and Examination Report under Sections 17 and 18(3)**

Latest date for reply: 19 April 2003

I enclose two copies of my search and examination report and two copies of the citations.

By the above date you should either file amendments to meet the objections in the report or make observations on them. If you do not, the application may be refused.

**Publication**

I estimate that, provided you have met all formal requirements, preparations for publication of your application will be completed soon after **16 September 2003**. You will then receive a letter informing you of completion and telling you the publication number and date of publication.

**Amendment/withdrawal**

If you wish to file amended claims for inclusion with the published application, or to withdraw the application to prevent publication, you must do so before the preparations for publication are completed. **No reminder will be issued.** If you write to the Office less than 3 weeks before the above completion date, please mark your letter prominently: **"URGENT - PUBLICATION IMMINENT"**.

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†Use of E-mail: Please note that e-mail should be used for correspondence only.



Application No: GB 0208997.7

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Yours faithfully

Philip Ord  
Examiner

**Important information about combined search and examination**

I also ask that you take note of the following points. These might have a bearing on the future stages of your application because the examination report has been sent to you before your application has been published.

- (a) You may file voluntary amendments before making a full response to my examination report. We will publish with your application any new or amended claims you file voluntarily or as a full response, provided that they are received before preparations for publication are completed. It would help us when you file amendments before publication if you could **prominently indicate** in a covering letter whether or not the amendments are intended as a full response to the examination report.
- (b) If you file a full response to the examination report before your application is published I will consider it as soon as possible. However, if this would disrupt the publication of your application, I would have to delay taking any action until the application had been published. This delay could be up to 3 months, depending upon when we receive your response.
- (c) There is another situation when there might be a delay between you filing a full response and the Patent Office responding to it. This would arise if you met all my objections but your application had not or had only recently been published. I could not report the outcome of my re-examination until I was satisfied that the search was complete for documents published before the priority date of your invention and that anybody interested in the application has had three months following publication of the application to make observations on the patentability of your invention.
- (d) Provided that the requirements of the Act have been met, I can send your application to grant as early as three months after publication. Before doing so I will bring the original search up to date and raise with you any further objection that might result from this top-up search. However, there is a possibility that at that time I may not have access to all the patent applications published after the priority date of your invention and of possible relevance to your application. If this is the case I would have to complete the search after grant and if necessary raise any new found novelty objection then.



INVESTOR IN PEOPLE

Application No: GB 0208997.7  
 Claims searched: 1-12

Examiner: Philip Ord  
 Date of search: 21 November 2002

## Patents Act 1977 Search Report under Section 17

### Databases searched:

UK Patent Office collections, including GB, EP, WO & US patent specifications, in:  
 UK Cl (Ed.T): F1C, F2A  
 Int Cl (Ed.7): F04D, F16N  
 Other: Online: WPI, EPODOC, JAPIO

### Documents considered to be relevant:

Category	Identity of document and relevant passage		Relevant to claims
X	US 5,591,016	NIKKISO CO, LTD. See figures 11 & 12a noting centrifugal stages, diffusers and passages connecting the hollow shaft with bearings 90, 94.	1-3,5
Y	US 4,502,852	HITACHI, LTD. See figures 1 & 2 noting chamber 1, passage 19 and ducts 26, 33 supplying lubricant to bearings 11, 12.	7, 8,10,11
X,Y	US 4,332,524	DEMPSTER INDUSTRIES, INC. See column 3 lines 11-43 and figure 1 noting pump stages, diffusers and the flow of lubricant in the space ( or passage ) between shaft 12 and bearing 54.	X: 1-3,5 Y: 7,8,10,11
A	US 6,140,725	GRUNDFOS A/S See figure 2 noting passages 15 supplying lubricant to bearing 7 from hollow shaft 6.	-
A	DE 29 41 133 A1	SPECK KOLBENPUMPEN FABRIK See figure 1 and WPI abstract accession number 1981-D9065D[18].	-

X	Document indicating lack of novelty or inventive step	A	Document indicating technological background and/or state of the art.
Y	Document indicating lack of inventive step if combined with one or more other documents of same category.	P	Document published on or after the declared priority date but before the filing date of this invention.
&	Member of the same patent family	E	Patent document published on or after, but with priority date earlier than, the filing date of this application.



INVESTOR IN PEOPLE

**Application No:** GB 0208997.7  
**Claims searched:** 1-12

**Examiner:** Philip Ord  
**Date of search:** 21 November 2002

Category	Identity of document and relevant passage	Relevant to claims

X	Document indicating lack of novelty or inventive step	A	Document indicating technological background and/or state of the art.
Y	Document indicating lack of inventive step if combined with one or more other documents of same category.	P	Document published on or after the declared priority date but before the filing date of this invention.
&	Member of the same patent family	E	Patent document published on or after, but with priority date earlier than, the filing date of this application.



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Your ref: 85.78187  
Application No: GB 0208997.7  
Applicant: BAKER HUGHES INCORPORATED

Examiner: Philip Ord  
Tel: 01633 814503  
Date of report: 21 November 2002

Latest date for reply: 19 April 2003

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## Patents Act 1977

### Combined Search and Examination Report under Sections 17 & 18(3)

#### Novelty

1. The invention as defined in claims 1-3 and 5 is not new because it has already been disclosed in each of the following documents:

i) US 5,591,016 NIKKISO CO, LTD.

See figures 11 & 12a noting centrifugal stages, diffusers and passages connecting the hollow shaft with bearings 90, 94

ii) US 4,332,524 DEMPSTER INDUSTRIES, INC.

See column 3 lines 11-43 and figure 1 noting pump stages, diffusers and the flow of lubricant in the space ( or passage ) between shaft 12 and bearing 54.

#### Inventive step

2. The invention as defined in claims 7, 8, 10 & 11 is obvious in view of what has already been disclosed in document ii) above and in:

iii) US 4,502,852 HITACHI, LTD.

See figures 1 & 2 noting chamber 1, passage 19 and ducts 26, 33 supplying lubricant to bearings 11, 12.

3. Document iii) shows that it is known to lubricate the bearings of pump arrangements by transferring lubricant from a chamber or reservoir via a passage in a hollow drive shaft. It would seem to be an obvious step to apply this method of lubrication to the pump disclosed in document ii), hence claims 7 and 10 do not appear to involve an inventive step.





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Your ref: 85.78187  
Application No: GB 0208997.7

Date of Report: 21 November 2002  
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[ Examination Report contd. ]

4. Document ii) discloses stages with substantially radial flow passages, hence claim 8 adds nothing inventive to claim 7.

5. Specifying a minimum pressure in the hollow shaft, as in claim 11, does not appear to add anything inventive to claim 10.

**Plurality of invention**

6. In amending to meet the above objections, it should be ensured that all the independent claims share a novel and inventive feature.

**Clarity and consistency**

7. Claim 3 does not appear to be consistent with claim 2. Claim 2 specifies that there are two stages and diffusers, whereas claim 3, which is appended to claim 2, refers to "the diffuser" and "the impeller", implying that there is only one stage and one diffuser.

8. In claim 4, it is not entirely clear what limitations are placed on the invention by stating that the pump stage discharges lubricant "in an opposite direction from the bearings". This could, for example, limit the invention to apparatus where lubricant from the pump stage is discharged in a direction which is opposite to the direction in which lubricant is discharged from the bearing, or it could limit the invention to apparatus where lubricant from the pump stage is discharged in a direction which is away from the bearings and parallel to the rotational axis of the shaft.

9. It is not clear what limitations the relative terms "lower" and "downward" place on the invention as described in claims 6 and 9, as it would appear that the features these terms refer to are entirely dependent on the orientation of the apparatus chosen by the operator.

10. The introductory pages should be brought into line with the final version of the claims.